Draft Meeting Notes: Community Advisory Group (CAG) –
Aerojet General Corporation Superfund Site Issues
Meeting Date: July 15, 2015

1. Introductions and Attendees

Janis Heple, CAG Chair, began the meeting with introductions at 7:00 p.m.

Attendees:

Alta Tura (Sacramento Area Creeks Council)
Anne Lawrence (Recorder, Sullivan International Group, Inc.)
Dan York (Sacramento Suburban Water District)
Derrick Green (Local resident)
Brit Snipes (City of Rancho Cordova)
Chris Fennessy (Aerojet Rocketdyne Holdings, Inc. [Aerojet])
Jackie Lane (U.S. Environmental Protection Agency [EPA])
Janis Heple (CAG Chair)
Jimmy Spearow (CAG)
Jerald Drobesh (Community Member)
Julie Santiago (EPA)
Lynn Keller (EPA)
Kevin Mayer (EPA)
Paul Schubert (Golden State Water Company [Golden State])
Rick Bettis (Sierra Club and others)
Steven Ross (Department of Toxic Substances Control [DTSC])
Tom Lae (CH2M Hill)

The Draft Meeting Notes from the meeting on May 20, 2015 were finalized.

2. Aerojet Community Update – Chris Fennessy, Aerojet

Mr. Fennessy stated he had nothing new to add. As Alex MacDonald of RWQCB would was not in attendance, Mr. Fennessy presented the RWQCB information.

3. Aerojet Cleanup Updates; Boundary Operable Unit (0U6) Record of Decision (ROD) – Julie Santiago-Ocasio and Kevin Mayer, EPA

Note: An example map from Appendix A was distributed (see attachments with final meeting notes).

Ms. Santiago introduced Lynn Keller – New EPA RPM for OU7. Ms. Santiago will be the RPM for the remainder of the OUs at Aerojet. Ms. Santiago and Ms. Keller will be taking over Kevin Mayer's responsibilities at the Aerojet Site.

Ms. Santiago stated the final version of the Record of Decision (ROD) for the Boundary Operable Unit (OU6) is complete – It should be signed sometime next week, at the earliest Monday July 20, 2015.
State regulatory agencies concurrence was obtained on:

- June 2, 2015 from the DTSC
- June 8, 2015 and again on July 1, 2015 from RWQCB

Ms. Santiago stated the final version of the EPA Vapor Intrusion Guidance was issued June 2015. The new guidance was incorporated into the OU6 ROD, which delayed the completion. The RODs for OU2, OU3, and OU5 have been completed and signed, OU6 will is completed and will be signed soon, and OU7 will be completed shortly.

Ms. Santiago presented a summary of the OU6 ROD:
The steps leading up to the ROD included RI/FS, RA, Proposed Plan gather all comments from regulators and the CAG and prepare the ROD. Primary contaminants of concern identified at OU6 include solvents, PCBs, and pesticides.

Cleanup Objectives Summary outlined in the ROD:
Ms. Santiago explained that current and futures receptors were taken into account in developing the ROD.

- Prevent exposure to present and future workers, residents and ecological receptors. (upper 12" for workers and residents, 6" for ecological receptors)
- Prevent migrations of COCs in soils and soil vapor
- Prevent exposures to VOCs in ambient air in current and future land use scenarios

The OU6 ROD addresses 9 Management Areas in OU6. A total of 81 Remedial Action Areas were identified within the Management Areas. Three different Remedial Alternatives were selected, from the four analyzed, for the Remedial Action Areas as follows:

- Alternative 2 – Institutional Controls: i.e. deed restrictions to properties preventing buildings or structures in the future. (3 areas)
- Alternative 3 – Containment and Engineering Controls: i.e. build structures engineered to block intrusion of contaminates such as vapor barriers to displace or absorb vapors. (11 areas)
- Alternative 4 – Source Removal or Reduction: i.e. excavation of soils with offsite disposal, excavation of soils with flushing and air stripping, and/or soil vapor extraction. (67 Areas)

14 Remedial Action Areas were merged reducing them to 7 or 8 Remedial Action Areas in the Final ROD based on multiple factors including: contiguous Remedial Action Areas, same Remedial Action Alternative chosen, same COCs etc. Appendix B in the ROD explains which Remedial Action Areas are covered and why.

The ROD is for soil and soil vapor contamination. Groundwater will be addressed separately. A disclaimer about groundwater will be included in the ROD. The same Institutional Controls will be implemented as OU3 and OU5.

Mr. Mayer stated the disclaimer is included due to questions about groundwater. Ms. Heple stated that the groundwater statement in the OU6 ROD will be the same as it is for other sites.

Ms. Santiago stated that many of the vapor intrusion sites in the California are at Aerojet. It has been a "learn as you go" process. Aerojet is one of the first sites with so vapor intrusion issues and is addressing future sites.

Ms. Santiago stated the U.S. EPA Regional Screening Levels were use (note they have changed twice during the development of the OU6 ROD) as well as the DTSC HHRA Hero Note 3 for ambient air performance standards. The screening numbers may change again after the ROD is signed and will be addressed in the Remedial Design phase.

Tables 2-2 and 2-3 are matrices that show the process for identifying sites, remedial alternatives and changes from the Proposed Plan to the ROD. Taken into consideration during the decision process were future use standards which included human health, ecological risks, and groundwater protection. Mr. Mayer noted that many of the changes between the Proposed Plan and the ROD were from community and state comments, especially the CAG meeting discussions.

Appendix A of the ROD includes the latest groundwater plume figures. Based on comments it was requested to see how the groundwater plumes interact. To achieve this there are six groundwater plume maps (one for each aquifer), CH2M Hill has been requested to print the maps on acetate to be able to stack.

Appendix B of the ROD summarizes actions selected. It includes matrices for each Remedial Action Area and discusses the where, what, why, and how for the selected remedy. It took approximately 3-4 months to complete the matrices.

What's next?

- ROD Signed
- Update Administrative Record
- Include vapor intrusion guidance with Table 2-2 with highlights of changes.
- Reproduction
- Send to repository

There was a discussion on number of hard copies versus digital copies to be made available to the CAG. Ms. Santiago will send with Ms. Lane to the September CAG meeting Five Hard Copies and 10 Compact Disks with the ROD. Ms. Heple requested more than minimal time for the CAG to review the ROD.

Enforcement:
The EPA will negotiate with the Responsible Parties either a Consent Decree (negotiated and logged at the court) or a Unilateral Administrative Order (EPA authored and must be followed). A Consent Decree and a Unilateral Administrative Order will be issued for all OUs eventually.

Remedial Design:
Create scope of work, develop workplans and schedules. Instead of creating 81 scope of works one scope of work will be developed for each remedial alternative. Then the "real work" for the OU6 will begin.

Question: Is the cleanup objectives for ambient air from groundwater and soil?
Answer: Yes, and it is explicit in the ROD.

Question: NDMA is this now considered a COC for vapor intrusion? Will the new guidance be used when it comes to scope of work and remedial design?
Answer: NDMA vapor intrusion will be included and addressed based on the new guidance.

Question: What is the screening level that was selected for perchlorate (50µg/kg or 60µg/kg)?
Answer: 60µg/kg was used in the ROD. The EPA Risk Assessors agreed that 60µg/kg was protective of human health through vegetable uptake in backyard gardens. Appendix F of the ROD explains all the calculations used to come to this conclusion.

Question: The study that references the 60µg/kg for perchlorate used tobacco plant uptake in the model, where lettuce uptake is much higher than tobacco. The study using lettuce recommended 50 µg/kg. Why is the 60 µg/kg still being used as it more likely for someone to be growing lettuce in their backyard than tobacco?
Answer: Site specific conditions were used to determine the value. The EPA Risk Assessors looked into this issue and came up with 60 µg/kg is acceptable for site specific issues. DTSC will take a look at the EPA Risk Assessors letter.

4. Progress on Soils Cleanup in Perimeter Operable Unit (OU5) – Kevin Mayer, EPA.

Note: Mr. Mayer's future work with the RPA will be at Edwards Air Force Base; this was his last Aerojet CAG meeting.

Mr. Mayer described OU5 – It is a ¼ acre area where VOC solvents (TCE) contaminants were dumped on the ground. Using a Soil Vapor Extraction (SVE) to clean-up the soil. Essentially the system sucking solvent contaminated air out of the ground then the air will pass through sorbent material (carbon) that will absorb the solvents and the exhaust air is no longer impacted by solvents.

Pilot tests were conducted to develop the best design. The pilot system included <12 SVE point in shallow and deep soils with a treatment system in a prefab building with large treatment tanks (containing the sorbent material) outside.

The pilot tests were successful! The remainder of the system will be built out. The pilot system will remain and was incorporated into the rest of the system at the remainder of the site. The system will be extended to the outer edges where contaminates have permeated through porous soils.

Ready to turn on the switch a month ago. AQMD permitting taking time. EPA has approved the exhaust limits for the system. AQMD looks at each site specifically, once they indicate the site specific exhaust limit the system can be turned on.

Lessons learned from OU5 will be used at OU6.

Question: How far out laterally will the vacuum reach?
Answer: It is dependent on the site conditions. A "measuring stick" used to figure out vacuum extent (radius of influence). Once radius of influence determined the system was designed and built.

Question: Will sorbent (carbon) be switched out? And where will it go?
Answer: Yes the carbon will be switched out, it is dependent on the size, contaminate concentration and flux of the system to determine when carbon will be switch out. Different CERCLA licensed facilities will accept the carbon, these will change throughout the life of the system.

Question: When the carbon sorbs the TCE does it break down chemically?
Answer: No, it is absorbed.

Question: How does the TCE sorbed carbon get broken down?
Answer: At the licensed facilities it is generally burned breaking down into water, carbon dioxide, and chloride.

Question: What is the size of the carbon filter tanks?

Answer: Approximately 5000 gallon cylinder, though it is dependent on the size of the area of contamination and the concentration of contaminates.

Question: How often will the carbon tanks be replaced?
Answer: In general change outs occur about every 9 months to a year. The system will be sized to meet this requirement.

5. Regional Board Aerojet Cleanup Overview – Chris Fennessy, Aerojet

Note: The presentation notes and activities map were distributed (see attachments with final meeting notes).

Alex MacDonald of the RWQCB was unable to attend and Chris Fennessy from Aerojet went over map items. Stating in the northeast corner of map moving clockwise.

- Six new monitoring wells were installed near Iron Point Road – to evaluate NDMA beyond the current extraction system.

- New extraction well (south of Buffalo Creek) to be installed just south of the Hogout Area as the originally installed extraction well only yielded 1.5 gallon/minute, which is not viable for extraction.

- New Pipeline Completed – Installed new extraction well converted old extraction well now going to GET AB.

- A second new pipeline was completed to connect two new extraction wells, located south of the west-central portion of the Aerojet Superfund Site, to capture chemicals migrating beneath Rio Del Oro (IRCTS) and treat the water at GET EF.

- New monitoring well planned to be installed adjacent to AC-6 to understand how extraction affects GW.

- GET L-A- Separation between GET L-B. Trying to find new location for extraction well around River Bend.

- New monitoring wells in northwest, in response to new NDMA detections beyond GET L-B system. It there a breach in the containment or was this already past the containment system when it was originally installed?

- New pipeline, 3 new extraction wells in Gold River piped to GET J facility.

Question: According to maps it appears the extent of the plume is moving to the NW. Does this poses a risk?
Answer: The edge is not necessarily expanding, there is possibly data points with missing information. It takes time to get all the data and determine the extent of contamination.

Initially systems don't always reach the extents of cleanup areas. Thus more wells and more data required.

6. Paul Schubert, Golden State Water Company

Mr. Schubert announced that the first phase of the Carmichael Pipeline construction started. Water from Gold River outfalls will be picked up and treated and redistributed upstream in.

7. 2014 Meeting Dates

The next CAG meeting is scheduled for Wednesday, September 16, 2015 in the American River South Room.

The subsequent meeting is tentatively scheduled for Wednesday, November 18, 2015 in the American River South Room.